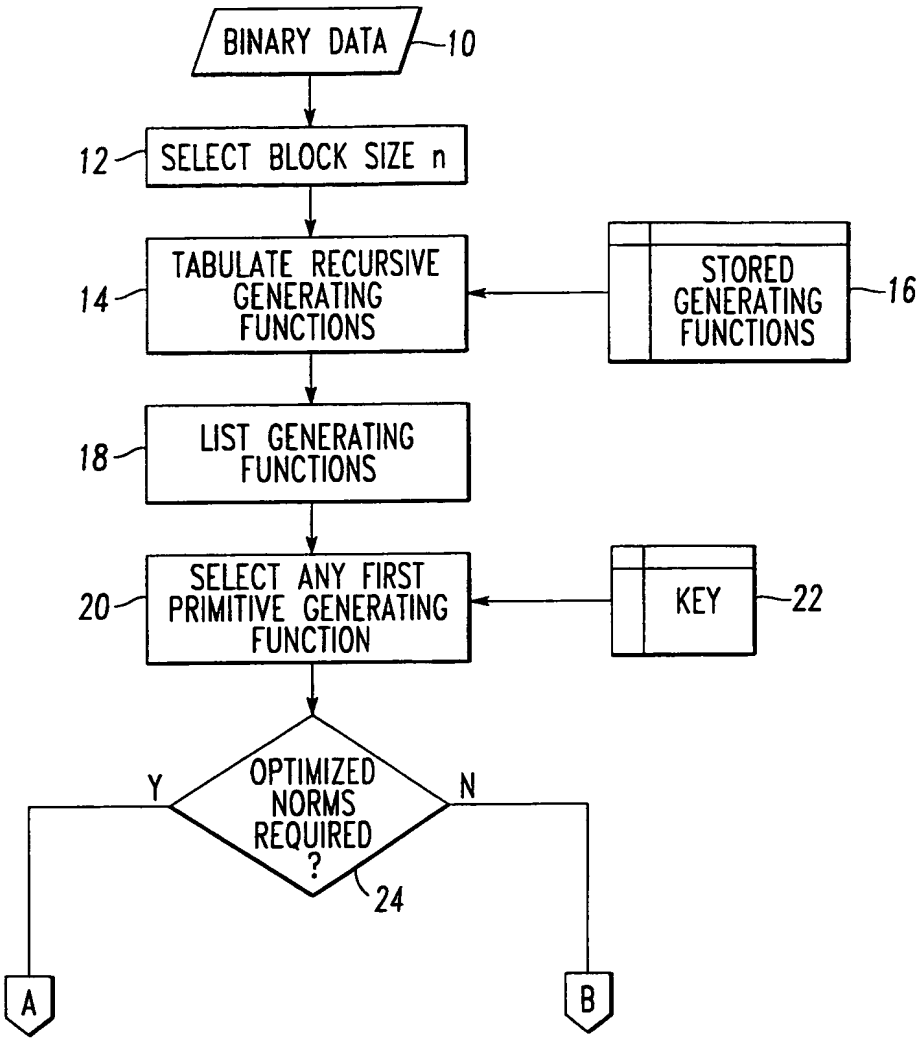

FIG. 1A

SUBSTITUTE SHEET (RULE 26)

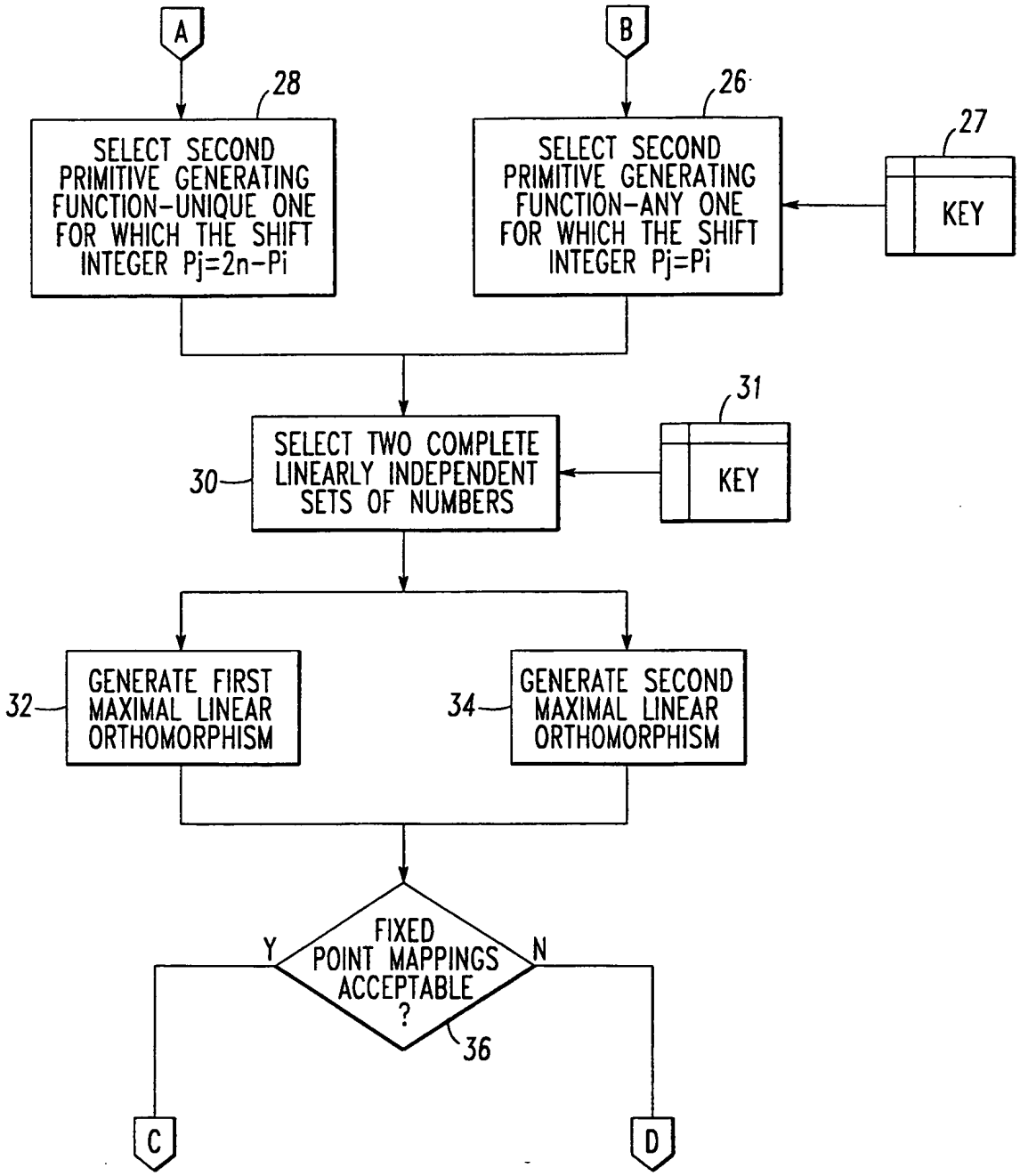
A
B
28
26
27
SELECT SECOND PRIMITIVE GENERATING FUNCTION-UNIQUE ONE FOR WHICH THE SHIFT INTEGER Pj=2n-Pi
SELECT SECOND PRIMITIVE GENERATING FUNCTION-ANY ONE FOR WHICH THE SHIFT INTEGER Pj=Pi
KEY
31
30
SELECT TWO COMPLETE LINEARLY INDEPENDENT SETS OF NUMBERS
KEY
32
GENERATE FIRST MAXIMAL LINEAR ORTHOMORPHISM
34
GENERATE SECOND MAXIMAL LINEAR ORTHOMORPHISM
Y
FIXED POINT MAPPINGS ACCEPTABLE ?
N
36
C
D

FIG. 1B

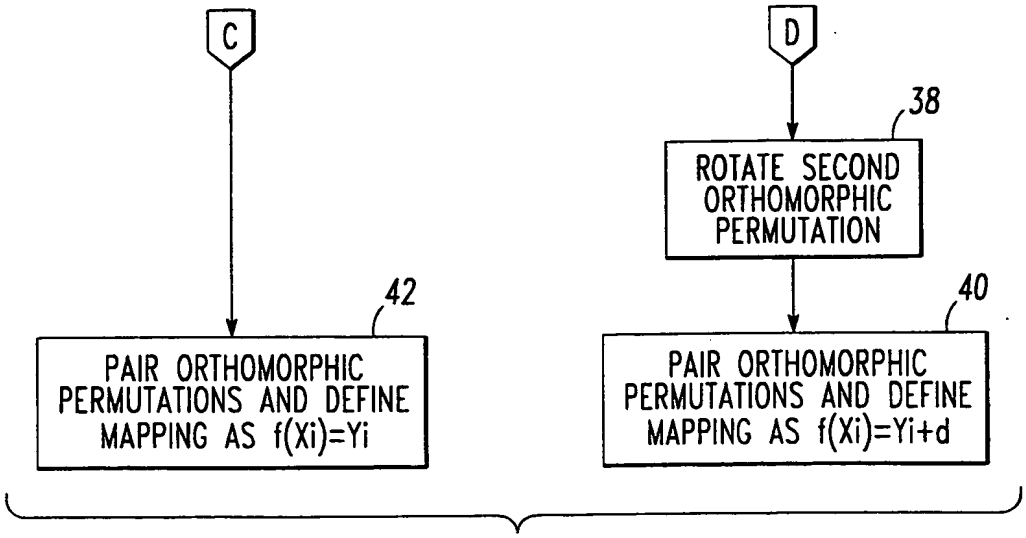
C
D
38
ROTATE SECOND ORTHOMORPHIC PERMUTATION
42
40
PAIR ORTHOMORPHIC PERMUTATIONS AND DEFINE MAPPING AS f(Xi)=Yi
PAIR ORTHOMORPHIC PERMUTATIONS AND DEFINE MAPPING AS f(Xi)=Yi+d

FIG.1C

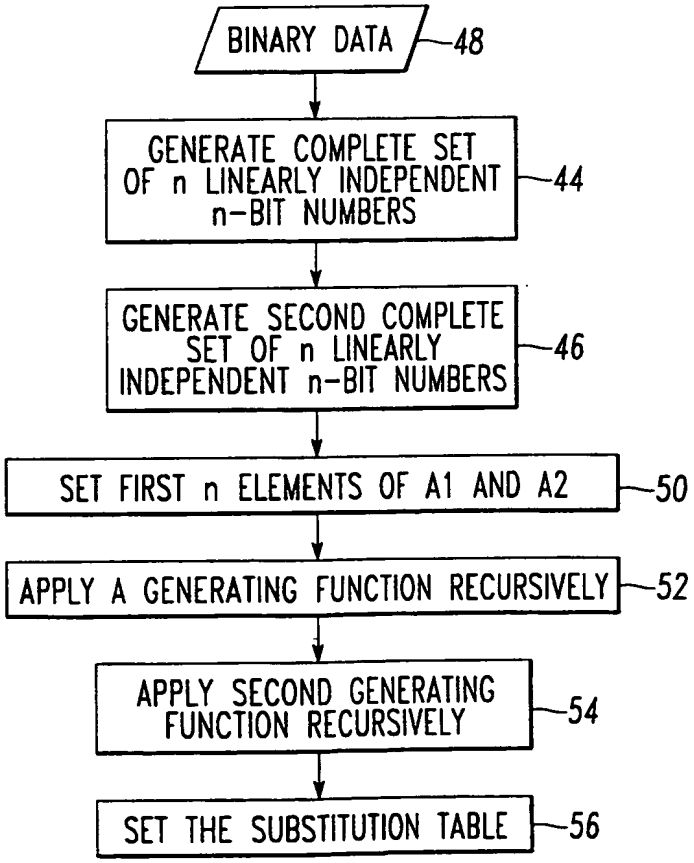
BINARY DATA
48
GENERATE COMPLETE SET OF n LINEARLY INDEPENDENT n-BIT NUMBERS
44
GENERATE SECOND COMPLETE SET OF n LINEARLY INDEPENDENT n-BIT NUMBERS
46
SET FIRST n ELEMENTS OF A1 AND A2
50
APPLY A GENERATING FUNCTION RECURSIVELY
52
APPLY SECOND GENERATING FUNCTION RECURSIVELY
54
SET THE SUBSTITUTION TABLE
56

FIG.2

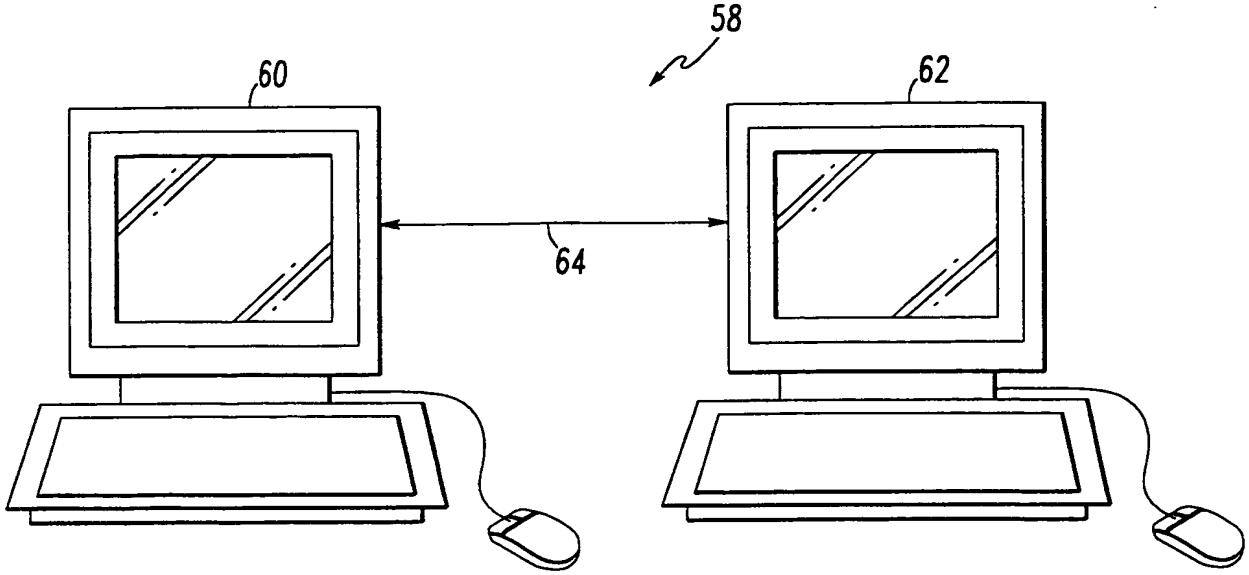
58
60
62
64

FIG.3

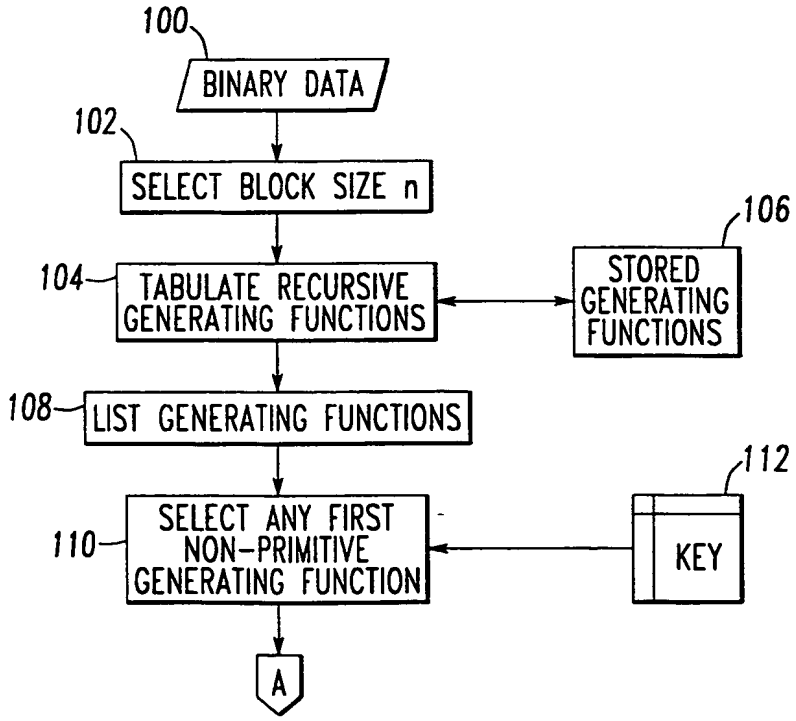
100
BINARY DATA
102
SELECT BLOCK SIZE n
104
TABULATE RECURSIVE GENERATING FUNCTIONS
106
STORED GENERATING FUNCTIONS
108
LIST GENERATING FUNCTIONS
110
SELECT ANY FIRST NON-PRIMITIVE GENERATING FUNCTION
112
KEY
A

FIG.4A

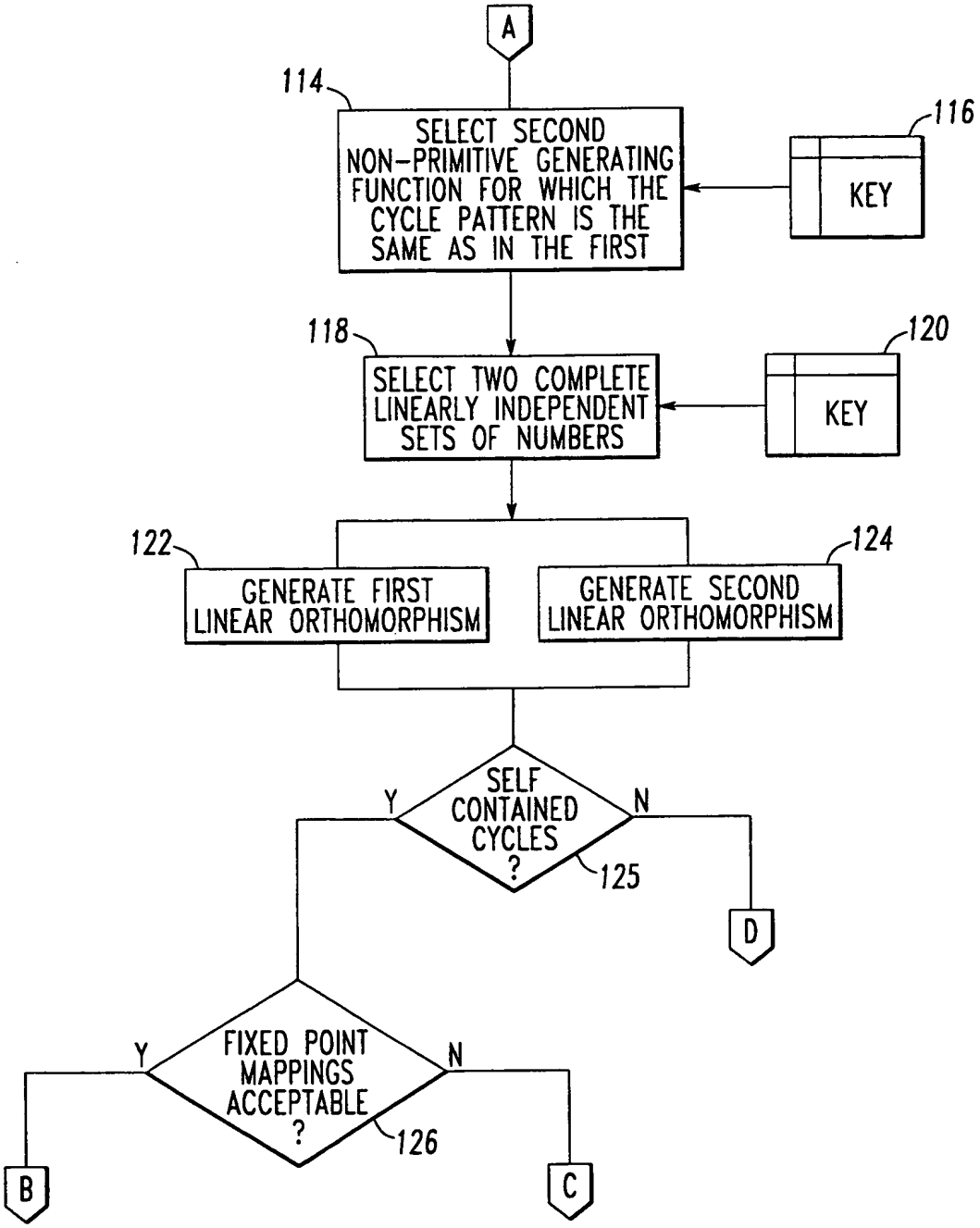
A
114
SELECT SECOND NON-PRIMITIVE GENERATING FUNCTION FOR WHICH THE CYCLE PATTERN IS THE SAME AS IN THE FIRST
116
KEY
118
SELECT TWO COMPLETE LINEARLY INDEPENDENT SETS OF NUMBERS
120
KEY
122
GENERATE FIRST LINEAR ORTHOMORPHISM
124
GENERATE SECOND LINEAR ORTHOMORPHISM
SELF CONTAINED CYCLES ?
125
Y
N
D
FIXED POINT MAPPINGS ACCEPTABLE ?
126
Y
N
B
C

FIG. 4B

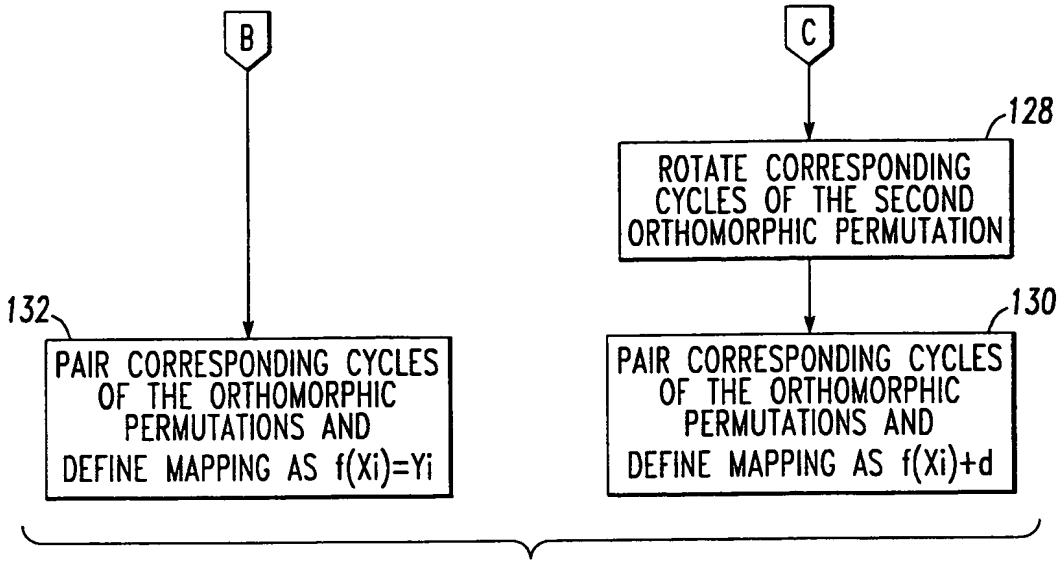
B
C
128
ROTATE CORRESPONDING CYCLES OF THE SECOND ORTHOMORPHIC PERMUTATION
132
130
PAIR CORRESPONDING CYCLES OF THE ORTHOMORPHIC PERMUTATIONS AND DEFINE MAPPING AS f(Xi)=Yi
PAIR CORRESPONDING CYCLES OF THE ORTHOMORPHIC PERMUTATIONS AND DEFINE MAPPING AS f(Xi)+d

FIG.4C

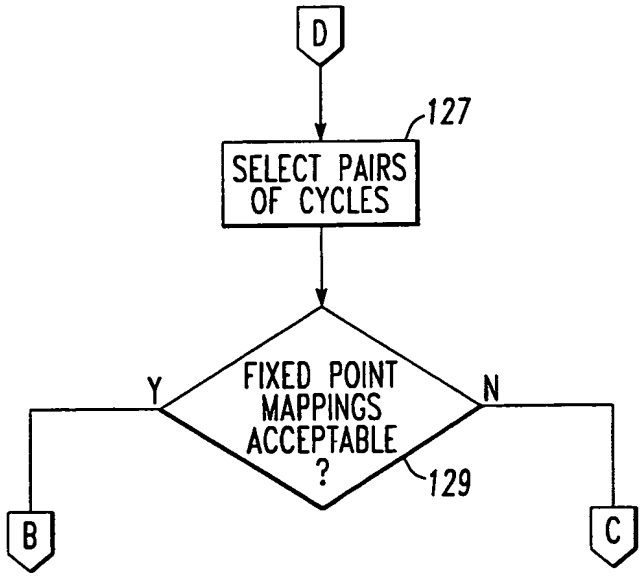
D
127
SELECT PAIRS OF CYCLES
Y
FIXED POINT MAPPINGS ACCEPTABLE ?
N
129
B
C

FIG.4D

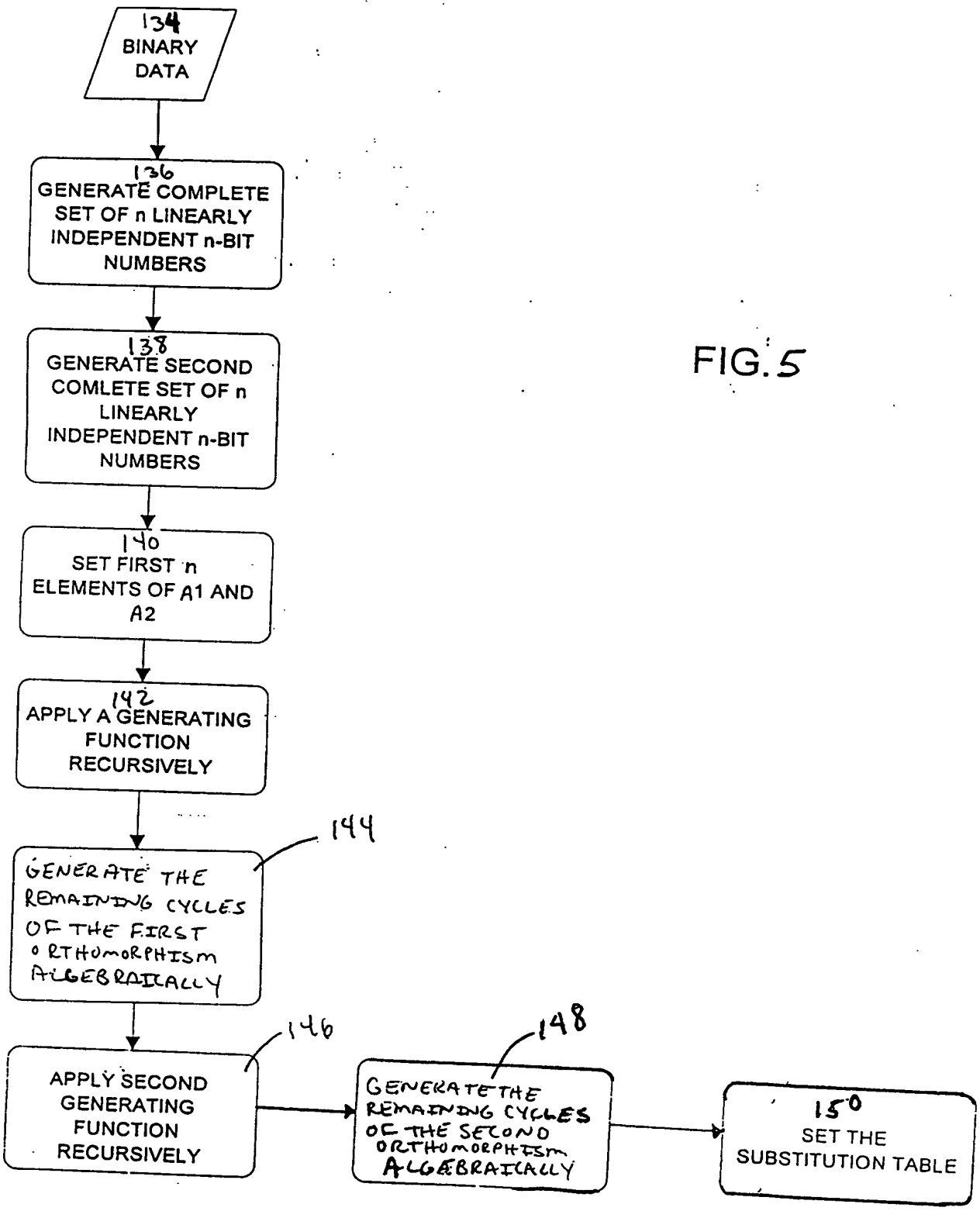
134
BINARY DATA
136
GENERATE COMPLETE SET OF n LINEARLY INDEPENDENT n-BIT NUMBERS
138
GENERATE SECOND COMLETE SET OF n LINEARLY INDEPENDENT n-BIT NUMBERS
140
SET FIRST n ELEMENTS OF A1 AND A2
142
APPLY A GENERATING FUNCTION RECURSIVELY
144
GENERATE THE REMAINING CYCLES OF THE FIRST ORTHOMORPHISM ALGEBRAICALLY
146
APPLY SECOND GENERATING FUNCTION RECURSIVELY
148
GENERATE THE REMAINING CYCLES OF THE SECOND ORTHOMORPHISM ALGEBRAICALLY
150
SET THE SUBSTITUTION TABLE

FIG. 5